LIII.—*Notes on American Batrachians.*

By G. A. Boulenger.

Rana cantabrigensis, Baird.

I have no hesitation in pronouncing *R. cantabrigensis latiremis*, *R. c. cantabrigensis*, and *R. c. evittata* of Cope (Batr. N. Am. 1889, p. 435) to represent *individual* variations of one species, which, as I have stated before (Bull. Soc. Zool. France, 1879, p. 162), is the North-American representative of the European *R. arvalis*. The first "form" represents the breeding male, the second the striped individuals, the third the specimens without stripes, females and males *post nuptias*. The establishment of "subspecies" or "varieties" of this kind, and such innovations as the reference of *R. aurora* to *R. agilis*, are not likely to advance our knowledge, and I must frankly say it is a matter of regret that the extensive material in the United-States Museum should not have received more careful treatment at the hands of Prof. Cope, who does not even take the trouble of ascertaining the sexes of the specimens he describes.

The whole question of the North-American *Ranæ temporariæ* is much in want of a thorough revision. In the meanwhile, after studying Cope's latest work, I adhere to my former classification of the North-American forms in four species, viz.:—1. *R. Draytoni*, B. & G.* (=*aurora*, B. & G., *nigricans*, Hallow., *Boylii*, Baird, *longipes*, Hallow., *pachyderma*, Cope); 2. *R. pretiosa*, B. & G.; 3. *R. cantabrigensis*, Baird; 4. *R. silvatica*, Leconte.

Rana palmipes, Spix.

Rana clamata, var. *guianensis*, Peters, Mon. Berl. Ac. 1863, p. 412, is another name to add to the synonymy of this species.

Engystoma carolinense, Holbr.

I have examined the type specimen of *Engystoma rugosum*, D. & B., and refer it to *E. carolinense*.

Leptodactylus prognathus, Blgr.

Three specimens from Buenos Ayres are preserved in the Copenhagen Museum.

* 1852, not 1862, as misprinted in my Catalogue and again in Cope's work.

Paludicola signifera.

Rhinoderma signifera, Girard, Proc. Ac. Philad. 1853, p. 424, and U.-S. Explor. Exped., Herp. p. 72 (1858).
Liuperus biligonigerus, Cope, Proc. Ac. Philad. 1860, p. 517.
Gomphobates notatus, Reinh. & Lütk. Vid. Middel. 1861, p. 173, pl. iv. fig. 3.
Gomphobates Kröyeri, Reinh. & Lütk. *l. c.* p. 176.
Pleurodema biligonigera, Cope, Proc. Ac. Philad. 1862, p. 352.
Leiuperus albonotatus, Steind. Verh. zool.-bot. Ges. Wien, 1862, p. 272, pl. xvi. fig. 4, and p. 551.
Leiuperus ephippifer, Steind. *l. c.* p. 277, pl. xiv. fig. 1, and pl. xvi. fig. 5.
Gomphobates biligonigerus, Cope, Proc. Am. Phil. Soc. xi. 1869, p. 168.
Paludicola notata, Peters, Mon. Berl. Ac. 1872, p. 223.
Paludicola biligonigera, Boulenger, Cat. Batr. Ecaud. p. 234 (1882).
Paludicola Kröyeri, Boulenger, *l. c.* p. 235.

Hundreds of specimens, from Santa Catharina and Parana, have lately passed through my hands, and show beyond doubt that *P. Kröyeri*, R. & L., is only a variety of the species named *Rhinoderma signifera* by Girard and *Liuperus biligonigerus* by Cope. Some specimens are smooth, others are covered with warts, others have the longitudinal folds characteristic of *P. Kröyeri*; some have the snout rounded, others have it pointed; some are uniformly coloured on the back, others are marked with insuliform spots, whilst others, again, are striped. But all these differences are completely bridged over when a large series, from the same locality, are examined. The inguinal spots, which are rarely absent, are constantly small and uncovered by the folded limbs. The metatarsal tubercles are larger and more compressed than in *P. gracilis*, and the tibio-tarsal articulation does not reach beyond the posterior border of the orbit.

Borborocœtes miliaris.

Rana miliaris, Spix, Spec. Nov. Test. Ran. Bras. p. 30, pl. vi. fig. 1 (1824).
Cystignathus Missiessii, Eyd. & Soul. Voy. 'Bonite,' Zool. i. p. 148, pl. x. fig. 2 (1841).
Cystignathus discolor, Reinh. & Lütk. Vid. Meddel. 1861, p. 169.
Thoropa Missiessii, Cope, Nat. Hist. Rev. 1865, p. 110.
Ololygon abbreviatus, Steind. Novara, Amph. p. 65, pl. iv. figs. 16-18 (1867).
Hylodes abbreviatus, Hens. Arch. f. Nat. 1867, p. 151.
Ololygon miliaris, Peters, Mon. Berl. Ac. 1872, p. 206.
Thoropa miliaris, Boulenger, Cat. Batr. Ecaud. p. 331 (1882).

Prof. Lütken having kindly communicated to me the type specimens of *Cystignathus discolor*, I come to the conclusion that that species is not different from *Ololygon miliaris*, of

which I examined the specimen in the Berlin Museum. I further find that *Ololygon* or *Thoropa miliaris* is not a Hyloid but a Cystignathoid, and that it agrees in all essential points with *Borborocœtes*, Bell. The diapophyses of the sacral vertebra are feebly dilated, just as in *B. Bibronii*, *Grayi*, and *quixensis*. I append a description taken from the specimens in the Berlin and Copenhagen Museums.

Tongue subcircular, slightly nicked behind. Vomerine teeth in two short transverse series on a line with the posterior border of the choanæ. Snout rounded, as long as the diameter of the orbit; canthus rostralis obtuse, loreal region concave; nostril much nearer the end of the snout than to the eye; eye large; interorbital space as broad as the upper eyelid; tympanum very distinct, two thirds or three fourths the diameter of the eye. Fingers moderate, first slightly longer than second; toes moderate, quite free, not fringed; subarticular tubercles moderately developed; two metatarsal tubercles, inner elliptical, outer round. The tibio-tarsal articulation reaches the tip of the snout or a little beyond. Skin smooth, with a few glandular warts on the sides; a strong fold from the eye to the shoulder. Pale greyish or brownish above, with darker marblings; a large triangular spot, base forwards, between the eyes; a blackish line along the canthus rostralis and temporal fold; hind limbs with dark cross bars; hinder side of thighs dark brown, with yellowish spots; lower parts pale brown, throat and belly dotted with yellowish.

From snout to vent 45 millim.

Cystignathus hylodes, described in the same paper with *C. discolor* by Reinhardt and Lütken, is based on young specimens of *Leptodactylus pentadactylus*.

Bufo Luetkenii, sp. n.

Intermediate between *B. valliceps*, Wiegm., and *B. granulosus*, Daud. Crown deeply concave, with prominent ridges, viz. a canthal, a preorbital, a supraorbital, a postorbital, a parietal, and an orbito-tympanic; parietal ridges short, oblique, directed inwards; snout rounded, not prominent; interorbital space at least as broad as the upper eyelid; tympanum very distinct, two thirds or three fifths the diameter of the eye. First finger considerably longer than second; toes half-webbed, with single subarticular tubercles; two small metatarsal tubercles; no tarsal fold. The tarso-metatarsal articulation reaches the tympanum or the eye. Upper parts with small irregular warts; parotoids very small, oval,

oblique, not much larger than the tympanum. Brown above, with or without yellowish spots; dirty white below, without any spots. Male with a subgular vocal sac and the usual copulatory asperities on the three inner fingers.

From snout to vent 82 millim.

Prof. Lütken has submitted to me three specimens obtained by A. S. Oersted at Cartago, Costa Rica. One of these specimens is now in the British Museum.

Hyla nana, Blgr.

Has been received from Rio Grande do Sul through Dr. v. Ihering.

Hyla bivittata, Blgr.

A specimen of this species was among a collection made on the Tibagy River, Province Parana, by Dr. G. F. Grillo, and submitted to me by the Marquis G. Doria.

Hylella Sumichrasti.

Exerodonta Sumichrasti, Brocchi, Bull. Soc. Philom. (7) iii. 1879, p. 20, and Miss. Sc. Mex., Batr. p. 48, pl. xv. fig. 2 (1882).
Hylella platycephala, Cope, Proc. Am. Phil. Soc. xviii. 1879, p. 269.

The above names apply to the same species and were published in the same year. Brocchi's paper was read first and apparently appeared before Cope's.

Diaglena Jordani, Stejneger.

Vol. xiv., now in course of publication, of the 'Proceedings of the U.S. National Museum,' contains (p. 167, pl. iii.) the description of a new tree-frog for which Mr. Stejneger proposes the new genus *Tetraprion*, allied to *Triprion* and *Diaglena*, differing from all others in the simultaneous presence of vomerine and palatine teeth. *Triprion spatulatus*, the type of Cope's genus *Diaglena* (Bull. U. S. Nat. Mus. no. 32, 1887, p. 12), was described by Günther (Ann. & Mag. Nat. Hist. 5, x. 1882, p. 279) from living specimens; the dentition was therefore not examined. I may now state that it has the palatine teeth situated as in *Tetraprion Jordani*, which, in the absence of any other character of generic importance, should stand as *Diaglena Jordani*.

Siphonops brasiliensis.

Siphonops brasiliensis, Lütk. Vid. Meddel. 1851, p. 54 (1852); Reinh. & Lütk. Vid. Meddel. 1861, p. 202.

I find on examination of the type specimen, kindly entrusted to me by Prof. Lütken, that *Siphonops brasiliensis* belongs to that genus in the restricted sense, not to *Dermophis*, as suggested by Peters. The shape of the tentacle is exactly as in *Siphonops annulatus*, and so is its position with respect to the eye, which is very indistinct; the dentition does not differ, so far as I can judge from the condition of the specimen. The more prominent snout and the much more elongate body easily distinguish *S. brasiliensis* from *S. annulatus*, and the position of the tentacle separates it from *S. Hardyi*, as may be seen from the following synopsis:—

Tentacle in front of and below the eye, which is perfectly distinct; diameter of body about 25 times in the total length; 85 to 95 circular folds, all complete ..... 1. *S. annulatus*, Mik.

Tentacle in front of and below the eye, which is very indistinct; diameter of body 46 times in the total length; 133 circular folds, mostly interrupted on the back and belly ..... 2. *S. brasiliensis*, Lütk.

Tentacle in front of and close to the eye, and very slightly below; eye more or less distinct; diameter of body 36 or 37 times in the total length; 100–104 circular folds, all complete.... 3. *S. Hardyi*, Blgr.*

Typhlonectes Kaupii.

Siphonops Kaupii, Berthold, Götting. Nachr. 1859, p. 181, and 1867, p. 361.
Cæcilia dorsalis, Peters, Mon. Berl. Ac. 1877, p. 459, pl. —.
Typhlonectes dorsalis, Peters, Mon. Berl. Ac. 1879, p. 941.

The earlier name *S. Kaupii*, which evidently applies to the same species as that named *C. dorsalis* by Peters, has hitherto been overlooked.

* The British Museum has recently received two more specimens of this species, from M. Hardy du Dréneuf.